

WHAT IS CLAIMED

1 1. Apparatus for performance-monitoring of a synchronous optical network  
2 standard signal comprising:

3 means supplied with the standard optical signal for converting the standard  
4 optical signal to an electrical signal;

5 means for separating from said electrical signal the framing signal portion  
6 thereof and leaving in its time slot the noise that was on the framing signal; and

7 means for separating selectively for inspection such noise from the data  
8 power for use as a measure of the quality of the standard optical signal.

1 2. The apparatus of claim 1 in which the means for separating the noise from  
2 the data includes a squaring circuit for increasing the discrimination between the  
3 relatively low noise power and the relatively high data power, and a low pass  
4 filter circuit for passing selectively the noise power to a display for viewing.

1 3. The apparatus of claim 2 in which the squaring circuit is a diode.

1 4. The apparatus of claim 1 in which the means for separating the framing  
2 signal from its noise is a notch filter.

1 5. The apparatus of claim 4 in which the framing signal is separated from the  
2 noise in its time slot by a low pass filter including two 50 ohm lengths of  
3 transmission line and two one-quarter wavelength stubs of such a transmission  
4 line, of which one is shorter and the other open-ended.

1 6. The apparatus of claim 2 in which the means for separating the framing  
2 signal power from the noise power in its time slot is a notch filter.

- 1 7. The process for performance monitoring of a SONET standard signal
- 2 comprising the steps of converting the signal into an electrical signal, separating
- 3 from said electrical signal the framing signal in a manner to leave the noise in
- 4 the framing signal time slot and the data power essentially undisturbed, and
- 5 displaying the noise power in the framing time slot of the separated signal.
- 1 8. The process of claim 5 in which before its display the separated signal is
- 2 treated to increase the difference in level of the noise power in the framing slot
- 3 and the data power of the signal.

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